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The development of the Primary Pupil Reading Attitude Inventory to measure recreational reading attitudes is described. Twenty second and third graders were interviewed to determine favorite after school and weekend activities. The nine most frequently named activities and three reading activities were then depicted by an artist in separate versions for boys and girls. Each of the three reading pictures was paired with each of the nine nonreading pictures, and 13 choices between two pictures of nonreading activities were included as distractors so that 40 total choices were required. The inventory was administered, and readministered a week later, to 73 second and third graders. A test-retest reliability coefficient was significant beyond the .001 level of confidence. The following fall, to obtain a measure of concurrent validity the test was administered to another group of 94 second and third graders. Their classroom teachers were then asked to select the 10 students with the highest and lowest interest in leisure time reading. A t-test indicated that the means of the two groups were significantly different. Attitude inventory scores and achievement test scores showed no significant correlation. References are included. (CM)

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DEVELOPMENT OF AN INSTRUMENT MEASURING ATTITUDES TOWARD READING IN PRIMARY PUPILS*

by

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The purpose in developing the Primary Pupil Reading Attitude Inventory was to measure attitudes toward recreational reading. An instrument was needed that did not require reading or writing (since the intended subjects were pupils in the primary grades), that could be administered quickly to an entire classroom, and that did not obviously reveal the intent of the instrument.

An earlier attempt at developing an instrument (Macdonald, Harris, and Rarick, 1966) had focused on measuring attitudes toward reading as a school subject. The first-grade pupil was asked to choose between reading and another school activity (drawing, writing, doing paper construction work, or doing number work) by marking the picture of the activity that he preferred.

Schotanus (1967), on the other hand, in a master's study developed an instrument for measuring attitudes of primary pupils toward reading as a leisure-time activity. A picture of a child reading was paired with each of six pictures depicting general types of recreational activities--playing actively outdoors, watching television, playing actively indoors, playing quietly indoors, playing with a pet, and helping a parent. The pupil was

RE001 558

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also asked to choose the picture depicting his favorite activity.

Studying these two previous attempts at devising attitude inventories, the investigator decided that a measure requiring a choice of reading over favorite recreational activities would be more rigorous than one demanding a choice between reading and other school activities. Furthermore, it seemed that the consideration of reading as a leisure-time activity would somewhat avoid the reaction to the particular circumstances of reading instruction in the classroom, such as a dislike of the teacher or placement in the lowest group. Finally, it was also decided to picture only solitary figures, avoiding the effect of interaction with other people. Although most of the non-reading activities may be performed either as a group or solitary activity, the pictures in the Primary Pupil Reading Attitude Inventory show only one child engaged in the activity.

METHOD

Development

To determine the recreational activities preferred by primary pupils, twenty second and third grade children (including an equal number of boys and girls and of good and poor readers as identified by their teachers) were interviewed individually. They were asked to name their favorite activities after school and on weekends. Nine of the most frequently named activities (excluding reading) were then depicted by an artist. Three pictures involving reading were also drawn. Separate versions for boys and girls were devised since it was believed that pictures of like-sexed children would facilitate identification of the subject with the child in the picture. Most of the activities are the same for both sexes

except for four of the non-reading activities which, although similar in type, are different for boys and girls. Figure I describes the pictures of the activities selected.

Figure I

Description of the Pictures of Activities Used in the Primary Pupil Reading Attitude Inventory

Boy's Version		Girl's Version	
Non-reading Activities	Reading Activities	Non-reading Activities	Reading Activities
1. Boy playing on monkey bars.	1. Boy reading book in living room.	1. Girl playing on monkey bars.	1. Girl reading book in living room.
2. Boy playing with toy cars and trucks.	2. Boy reading comic book on bed.	2. Girl playing with dolls.	2. Girl reading comic book on bed.
3. Boy riding bicycle.	3. Boy reading book outside.	3. Girl riding bicycle.	3. Girl reading book outside.
4. Boy watching T. V.		4. Girl watching T.V.	
5. Boy swinging rope.		5. Girl on swing.	
6. Boy drawing picture.		6. Girl drawing picture.	
7. Boy building model airplane.		7. Girl making puppet.	
8. Boy climbing tree.		8. Girl jumping rope.	
9. Boy going swimming.		9. Girl going swimming.	

Each of the three reading pictures was paired with each of the nine non-reading pictures, allowing the subject to choose between reading and some other activity 27 times. Thus, a score of 27 indicates that reading was consistently chosen over the nine other activities; a score of zero indicates that reading was not chosen at all as a preferred activity.

Thirteen distractors--choices between two pictures of non-reading activities listed in Figure 1--were also included so that the inventory involves a total of 40 choices, 27 of which include reading. The pictures for the distractors were randomly chosen, and the sequence of the pairs of pictures was also randomly determined.

Administration

The inventory was administered last spring by the investigator-- with the teachers absent from the rooms--to 73 second and third grade pupils in three classrooms. After introducing herself, the investigator explained that the inventory was not a test, but merely a way of finding out what children like to do after school and on weekends. The children were then shown each of the 12 pictures (three reading and nine non-reading pictures) in the boy's and girl's versions and were told what activity was represented in each picture. To prevent their changing choices, they were told to mark in crayon the picture of the activity that they preferred on each page. They were told not to consider previous choices, but to choose only between the two pictures presented on each page. As each child finished, the booklets were picked up to prevent comparisons among children.

The inventory was re-administered to the same children with the same instructions one week later. A test-retest reliability coefficient was subsequently computed.

Validation

Although the instrument appeared to have some inherent validity since second and third grade pupils had been interviewed to determine the

non-reading activities, a measure of concurrent validity was attempted this fall with a different sample of second and third grade children. A validation procedure, similar to the one used in validating the San Diego County Inventory of Reading Attitude, was selected. The teachers in the San Diego study were asked to select from their classrooms three students with the best attitude toward reading and three with the poorest attitude toward reading. In validating the Primary Pupil Reading Attitude Inventory, it was decided that the teachers would select the five students in their classrooms who were highest and the five who were lowest in interest in leisure-time reading. Some criteria for selection of the students were suggested to the teachers. For example, it was suggested that children who have a high interest in recreational reading may have read more books outside of school than required, may have checked more books out of the school library, and may have discussed the books with the teacher or other students. The criteria suggested for the students who have a low interest in recreational reading were the failure to read books at home, the misuse of library periods, and the display of dislike or lack of interest when recreational reading is discussed in class.

In making the validation study this fall, the Primary Pupil Reading Attitude Inventory was first administered to 94 second and third grade children in three classrooms, following the administration instructions described above. The three teachers, who did not know the scores of the children on the attitude inventory, were then asked, using the above criteria, to select in their classrooms the five highest and five lowest in interest in leisure-time reading. A t test for independent samples was used to

determine if a significant difference between the high and low interest groups existed in the Primary Pupil Reading Attitude Inventory scores.

RESULTS

In the reliability study done last spring the mean score on the first administration of the Primary Pupil Reading Attitude Inventory was 10.20. The mean of the scores when the test was given one week later was 9.49. The test-retest reliability coefficient with a one-week interval was significant beyond the .001 level of significance ($r = .906$).

The summary statistics concerning the high and low interest groups in recreational reading, as identified by their teachers, are presented in Table I.

Table I

Mean Inventory Scores and Standard Deviations for Two Groups of Students Judged to Have Low and High Interest in Recreational Reading

Group	Mean	Standard Deviation	N
Low interest, as judged by teachers	5.66	5.08	15
High interest as judged by teachers	11.0	3.46	15

A t test ($t = 3.36$) indicated that the means of the Primary Pupil Reading Attitude Inventory scores of the two groups, identified by their teachers, were different at the .01 level of significance. The mean of the total group of students tested ($N = 94$) was 8.21.

In conclusion, it is interesting to note in Table I that the standard deviation of the inventory scores of the low interest group is somewhat larger than that of the high interest group, indicating greater extremes in the low interest group. Although the ranges of scores for the two groups do overlap (low interest group: 0-15; high interest group: 6-18), the significant difference between the means of the two groups does indicate that the Primary Pupil Reading Attitude Inventory was able to distinguish between the two groups that were selected by the teachers as having high and low interest in recreational reading.

DISCUSSION

Inspection of the results indicates that the instrument is both valid (having concurrent validity) and reliable (as established by a test-retest coefficient with a one-week interval).

The advantages of the inventory are perhaps obvious. The children's attitudes toward leisure-time reading are assessed by a game--like instrument, the purpose of which does not seem to be immediately apparent. It is easy and quick to administer to an entire classroom since it involves no reading or writing. By making forced choices between pictures of activities preferred by the age group, children reveal their attitudes toward reading as one of a number of other recreational activities.

A question may be raised concerning the influence of the school setting upon the attitude inventory scores. Some children may have perceived the intent of the inventory and, therefore, may have been influenced by the school setting to choose pictures of reading activities although they might have chosen the non-reading activities in another situation. Although this

factor may have influenced individual children, generally the scores on the inventory were low (in the validity study $\bar{x}$ = 8.21, having 27 as a possible maximum score). It appears, therefore, that the influence of the school setting, although it may be a factor, is not major.

It is necessary in considering the Primary Pupil Reading Attitude Inventory to keep in mind two limitations in its use. First, a few of the pictures are seasonal. Since the inventory was designed to be used in the early fall and late spring, the pictures, such as a child reading a book outdoors or going swimming, are appropriate for the studies made by the investigator. At another time of year, however, the usefulness of the inventory might be limited by the seasonal nature of some of the activities. Second, the instrument is appropriate for use only in the primary grades since the activities pictured are those named as favorite ones by primary children.

Another limitation exists in the interpretation of the scores. A score on any attitude inventory may not be considered as a true indication of behavior. Although a child may choose a reading picture over a picture of a non-reading activity, it does not mean that he will actually choose reading as a recreational activity for himself. The score on the inventory indicates only how the child <u>said</u> he would choose between reading and other recreational activities. It may be noted, however, that the Primary Pupil Reading Attitude Inventory may in fact be providing some indication of behavior. In the validation study the criteria suggested to the teachers, when selecting the five highest and five lowest in interest in recreational reading, were behavioral. Thus, if the teachers did base their selection

of the two interest groups on the suggested behavioral criteria, then the inventory is providing some indication of behavior since the means of the attitude scores for the two interest groups were significantly different. One must resist the temptation, however, to take the Primary Pupil Reading Attitude Inventory scores as more than general indications of behavioral trends.

Finally, one must consider the difficulty that occurs in any attempt to measure attitude--that is, that the instrument, while appearing to measure attitude, may in fact be measuring some other variable. For example, the Primary Pupil Reading Attitude Inventory may be assessing achievement indirectly. To test this possibility, the scores on the attitude inventory were correlated with achievement scores (Reading Vocabulary subtest of the California Achievement Tests), using the subjects in the validation study who took the two measures at approximately the same time this fall. In one classroom (N = 29), there was virtually no correlation (r = .031), and in another classroom (N = 33) the correlation was barely significant at the one percent level (r = .313). Apparently, whatever is being measured--attitude, hopefully--is relatively independent of achievement.

The low correlation between attitude and achievement scores, incidentally, indicates that the non-reading activities were in fact appealing to primary children, for even good readers, who might be expected to prefer reading, did not consistently choose reading over other activities. Thus, the Primary Pupil Reading Attitude Inventory seems to be a fairly rigorous measure of attitude since the children are forced to choose between reading and other favorite recreational activities.

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